BRUHAT BANGALORE MAHANAGARA PALIKE

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

RR Nagar Project

Measurement Sheet

PAYMENT CERTIFICATE

Secound & Part BILL

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on :-

Item No:	1
Item Name	Earth work excavation for foundation of structures upto 3 mtrs.by mechanical means as per drawing and technical specification, including setting out, providing shoring, strutting and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, filling back the excavated earth to the extent required and utilising / transporting the remaining earth upto 1.00km lead. including cost of labour, materials and HOM etc., complete. - do - In all types of soils. complete as per the direction of the Engineer in-charge

	Description of work	Side	No	Length m	Breadth m	Depth m	Qty	Remark
	behind STP Plant		1	43	28	0.75	903.00	
						Total Qty	903.00	
					Approved BOQ qty		484.86	Cum
				Qty reserved in 1st Bill (page: 16)			117.58	Cum
				Qty Paid In 1st And RA Bill			484.86	Cum
				Total Work Done Qty			1,505.44	Cum
				Qty Paid In This Bill			0.00	Cum
				Tota Qty For Reserved			1020.58	Cum

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R.R. Nagar

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Assistant Engineer
Project-RR Nagara
BBMP

Consultant Representative

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on.-	
Item No:	**3**
Item Name:	Earthwork excavation for foundation of buildings, culverts, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in ordinary soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. complete as per the direction of the Engineer in-charge.

	Description of work	Side	No	Length	Breadth	Depth	Qty	Remark
				m	m	m		
	for Retaining wall		1	91.70	2.80	2.10	539.20	
			21	1.80	1.80	1.60	108.86	
			1	16.90	0.75	1.60	20.28	
	for RCC Drain		1	44.00	1.20	0.75	39.60	
						Total Qty	**707.94**	
						Approved BOQ qty	**369.36**	**Cum**
						Qty Paid In 1st RA Bill	**300.85**	**Cum**
						Total Work Done Qty	**1,008.79**	**Cum**
						Qty Paid In This Bill	**68.51**	**Cum**
	Qty Reserved for want of Appr					Total Qty For Reserved	**639.43**	**Cum**

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on -

Item No: 30

Item Name: Providing and constructing granite/basalt size stone masonry in basement with cement mortar 1:6, edges of stones chisele dressed in courses not less than 15 cms high, bond stones at 2mts apart in each course including cost of materials, labour, curing, complete as per specifications

	Description of work	Side	No	Length m	Breadth m	Depth m	Qty	Remark
	compound wall S/side		1	23.2	0.45	0.45	4.70	
						Total Qty	4.70	
						Approved BOQ qty	105.00	Cum
						Qty paid in 1st Bill	105.00	Cum
						Total Work Done Qty	109.70	Cum
						Qty payable in this Bill	4.70	Cum
						Qty reserved		

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on :-

Item No:	EIRL-1							
Item Name	KSRB 2.8 : Providing and Filling in foundation with granite / trap broken metal 100mm. and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with all lead and lift complete as per specifications specification. No. KBS							
	Description of work	**Side**	**No**	**Length**	**Breadth**	**Depth**	**Qty**	**Remark**
				m	**m**	**m**		
	FOR RETAINING WALL							
	Compd wall		1	91.7	3.2	0.20	58.69	
			21	1.8	1.8	0.20	13.61	
			1	16.9	0.75	0.20	2.54	
					Total Qty		**74.83**	**Cum**
					Qty payable in this Bill		**74.83**	**Cum**

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on -

Item No:	**16**
Item Name:	Providing and laying in position Plain Cement Concrete of Mix 1:4:8 with OPC cement @ 180kgs, with 40mm & down size graded granite metal coarse aggregates @ 0.85 cum & fine aggregates @ 0.57 cum machine mixed, machine mixed, concrete laid in layers not exceeding 15cms, thick well compacted, in foundation, including cost of all materials, labour, HOM of machinery, curing complete as per specification complete as per the direction of the Engineer in-charge.

	Description of work	Side	No	Length m	Breadth m	Depth m	Qty	Remark
	PCC for RCC wall		1	91.7	2.6	0.15	35.76	
	Compd pillar footing		21	1.8	1.8	0.15	10.21	
			1	16.9	0.75	0.15	1.90	
						Total Qty	**47.87**	**Cum**
						Approved BOQ Qty	**55.93**	**Cum**
						Qty payable in this Bill	**47.87**	**Cum**

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No :2nd and Part Bill

Item No:	28	

BARBENDING SCHEDULE for RETAINING WALL

Description	Dia of bars, mm	No	L	Total length	ITEM NUMBERS	12	10	8
Item Name:	Providing TMT Steel reinforcement for RCC works including straightening, cutting, bending, hooking, placing in position lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary, complete as per design (laps, hooks and wastage shall not be measured and paid) cost of all materials, labour, HOM of machineries etc., complete as per specifications. complete as per the direction of the Engineer in-charge. For columns ,beams , sump tank , roof slab, misc. works.							
Measurement recorded on								
Retaining Wall								
Footing								
Main Top & bottom	10	720	2.50	1800.00	2	-	2232.000	-
Disribution	8	11	90.00	990.00	2	-	-	772.2
Vertical earth side	12	900	4.00	3600.00	1	3204.00	-	-
Vertical Building side	12	450	4.00	1800.00	1	1602.00		-
Ditribution	10	20	90.00	1800.00	2		2232.000	
Compound wall								
Footing Mat	12	20	1.50	30.00	21	560.70	-	-
Pillars	12	4	4.00	16.00	21	299.04	-	-
Rings	8	18	1.10	19.80	21	-	-	162.162

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Plinth Beam	12	4	54.70	218.80	1	194.73		
Rings	8	274	1.22	334.28	1	-	-	130.3692
						5860.47	4464.00	1064.73
RCC Box drain	10	352	2.40	844.80	1		523.776	
	8	25	44.00	1100.00	8	-	-	3432
				TOTAL(KGS)				11389.20
				TOTAL (MT)				11.39

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on :-

Item No:	**19**
Item Name	Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for Foundations, footings , bases of columns for mass concrete including cost of all materials, labour complete as per specifications complete as per the direction of the Engineer in-charge.

Description of work	Side	No	Length m	Breadth m	Depth m	Qty	Remark
Raft		2	91.70		0.45	82.53	
		2	2.60		0.45	2.34	
vertical wall		2	91.70		3.20	586.88	
pillar-foooting -PCC sides		21	7.20		0.15	22.68	
pillar-foooting concrete		21	6.00		0.35	44.10	
					Total Qty	738.53	
					Approved BOQ qty	**414.86**	**Sqm**
					Qty paid in 1st Bill	**329.43**	**Sqm**
					Total Work Done Qty	**1,067.96**	**Sqm**
					Qty payable in this Bill	**85.43**	**Sqm**
					Total Qty For Recovered	**653.10**	**Sqm**

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Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on:-

Item No: **14**

Item Name: Providing and laying cement concrete using 20 mm and down size granite jelly of Ready mixed concrete (RMC) M-25 for R.C.C works laid in 15 cms thick layers and well compacted vibrating, curing, finishing with necessary cement mortar, with all lead and lifts etc., complete (exclusive of cost of steel, fabrication charges and plastering.) complete as per the direction of the Engineer in-charge.

	Description of work	Side	No	Length m	Breadth m	Depth m	Qty	Remark
	for Retaining Wall- Raft		1	91.70	2.20	0.40	80.70	
	pillar-foooting		21	1.50	1.50	0.40	18.90	
	RCC Drain		1	44.00	0.90	0.20	7.92	
	sides		2	44.00		0.15	11.88	
						Total Qty	**119.40**	
						Approved BOQ qty	**81.76**	**Cum**
						Qty paid in 1st Bill	**25.98**	**Cum**
						Total Work Done Qty	**145.38**	**Cum**
						Qty payable in this Bill	**55.78**	**Cum**
						Qty reserved	**63.62**	**Cum**

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Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Measurement recorded on -

Item No:	35	
Item Name	Providing and constructing load bearing wall with solid concrete blocks having block density not less than 1800kg/m3 having a minimum average compressive strength of 4 00 N/mm2 confirming to IS 2185 (Part 1) 2005 and constructed with CM 1 4, as per IS 2572 2005 including cost of all materials labour charges, scaffolding, curing, hire charges of machineries etc , complete as per specifications - do - with solid concrete blocks of size 400x200x200mm complete as per the direction of the Engineer in-charge	

	Description of work	Side	No	Length m	Breadth m	Depth m	Qty	Remark
	Compound wall	1	1	48 40		2 00	96.80	
	Open to sky parapet	1	2	13.37		0 90	12 03	
		1	2	8.03		0 90	7 23	
						Total Qty	**116.06**	
					Approved BOQ qty		**141.00**	**Cum**
					Qty payable in this Bill		**116.06**	**Cum**

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BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No :2nd Part Bill

Item No:	28	

BARBENDING SCHEDULE FOR ROOF BEAM

Sl.No	Description	Dia of Bar (in mm)	No.	No. Bars	Length of Bar (in Mts.)	Unit Weight/ Mtr	Total Weight in Kgs	Total Weight in MT
Item Name:	Providing TMT Steel reinforcement for RCC works including straightening, cutting, bending, hooking, placing in position lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary, complete as per design (laps, hooks and wastage shall not be measured and paid) cost of all materials, labour, HOM of machineries etc., complete as per specifications. complete as per the direction of the Engineer in-charge. For columns ,beams , sump tank , roof slab, misc. works.							
	Measurement recorded on							
a	**IB1 (230 X450)**							
	Top rod.	16	1	2	17.40	1.58	54.99	0.055
	Bottom rod	16	1	2	17.40	1.58	54.99	0.055
	Extra Top rod.	12	1	6	2.60	0.89	13.87	0.014
	Extra Bottom rod.	16	1	2	2.50	1.58	7.90	0.008
		16	1	2	3.05	1.58	9.64	0.010
		16	1	4	2.85	1.58	18.01	0.018
	Stirrups @ 175mm c	8	1	98	1.30	0.395	50.49	0.050
b	**IB2 (230 X450)**							
	Top rod.	12	1	2	4.30	0.89	7.64	0.008
	Bottom rod	16	1	2	4.30	1.58	13.59	0.014
	Extra Bottom rod.	12	1	2	2.45	0.89	4.36	0.004
	Stirrups @ 150mm c	8	1	24	1.30	0.395	12.36	0.012
c	**IB3 (230 X450)**							
	Top rod.	16	1	2	10.72	1.58	33.88	0.034
	Extra Top rod.	12	1	2	2.85	0.89	5.07	0.005
	Top rod at end	12	1	2	10.72	0.89	19.06	0.019
	Bottom rod	16	1	3	11.16	1.58	52.91	0.053
	Extra Bottom rod.	16	1	2	3.00	1.58	9.48	0.009
	Stirrups	8	1	83	1.30	0.40	42.76	0.043
d	**IB4 (230 X450)**							
	Top rod.	20	1	2	39.85	2.47	196.79	0.197
	Extra Top rod.	20	1	4	3.00	2.47	29.63	0.030
	Extra Top rod.	12	1	4	3.00	0.89	10.67	0.011
	Bottom rod	20	1	4	6.45	2.47	63.70	0.064

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		16	1	2	13.75	1.58	43.46	0.043
		16	1	2	9.00	1.58	28.44	0.028
		12	1	2	8.60	0.89	15.29	0.015
	Extra Bottom rod.	20	1	4	4.30	2.47	42.47	0.042
	Stirrups	8	1	244	1.30	0.40	125.70	0.126
e	**IB5 (230 X450)**							
	Top rod.	16	1	2	39.85	1.58	125.95	0.126
	Extra Top rod @ ends	12	1	6	2.20	0.89	11.73	0.012
	Extra Top rod.	12	1	4	1.90	0.89	6.76	0.007
		12	1	4	2.80	0.89	9.96	0.010
	Bottom rod	16	1	3	39.85	1.58	188.92	0.189
	Bottom rod	12	1	4	2.85	0.89	10.13	0.010
		12	1	10	2.20	0.89	19.56	0.020
	Stirrups @ 150 c/c	8	1	239	1.30	0.40	123.12	0.123
f	**IB7 (230 X450)**							
	Top rod.	12	2	2	18.38	0.89	65.35	0.065
	Bottom rod	16	2	2	18.38	1.58	116.18	0.116
	Extra Top rod.	12	2	2	2.00	0.89	7.11	0.007
		12	2	2	2.75	0.89	9.78	0.010
	Stirrups	8	2	104	1.30	0.395	107.15	0.107
g.	**IB8A (230 X450)**							
	Top rod.	16	2	2	13.65	1.58	86.28	0.086
	Bottom rod	16	2	2	13.65	1.58	86.28	0.086
	Extra Top rod.	12	2	2	2.20	0.89	7.82	0.008
		12	2	2	2.60	0.89	9.24	0.009
	Stirrups	8	2	89	1.30	0.395	91.70	0.092
h.	**IB9 & 9a (230 X450)**							
	Top rod.	12	2	2	2.50	0.89	8.89	0.009
	Bottom rod	16	2	2	2.50	1.58	15.80	0.016
	Extra Bottom rod.	12	2	2	2.00	0.89	7.11	0.007
	Stirrups	8	2	15	1.30	0.395	15.45	0.015
h.	**IB10 (230 X450)**							
	Top rod.	16	1	2	39.85	1.58	125.95	0.126
	Bottom rod	16	2	2	16.50	1.58	104.30	0.104
		20	1	2	10.50	2.47	51.85	0.052
	Extra Top rod.	12	4	2	2.15	0.89	15.29	0.015
		12	2	2	2.65	0.89	9.42	0.009
		25	2	2	4.00	3.86	61.73	0.062
	Extra Top rod @ ends	12	1	6	1.60	0.89	8.53	0.009
	Extra Bottom rod.	12	6	2	2.50	0.89	26.67	0.027
		12	2	2	3.60	0.89	12.80	0.013
		20	1	2	5.70	2.47	28.15	0.028
	Stirrups @ 100mm	8	1	184	1.30	0.395	94.79	0.095
	Stirrups @ 175mm	8	1	52	1.30	0.395	26.79	0.027

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	Stirrups @ 150mm c/c	8	1	77	1.30	0.395	39.67	0.040
i.	**IB11(230 X450)**							
	Top rod.	20	1	2	18.36	2.47	90.67	0.091
	Bottom rod	20	1	2	8.35	2.47	41.23	0.041
		20	2	2	6.44	2.47	63.60	0.064
	Extra Top rod.	20	2	2	4.00	2.47	39.51	0.040
	Extra Bottom rod.	20	1	2	5.70	2.47	28.15	0.028
	Stirrups	8	1	112	1.30	0.395	57.70	0.058
j.	**IB12 (230 X450)**							
	Top rod.	20	1	2	5.55	2.47	27.41	0.027
	Bottom extra rod	16	1	4	5.15	1.58	32.55	0.033
	Bottom rod	20	1	2	5.55	2.47	27.41	0.027
	Stirrups	8	1	53	1.30	0.40	27.30	0.027
k.	**IB13 (230 X450)**							
	Top rod.	12	1	2	11.28	0.89	20.05	0.020
	Extra Top rod.	12	1	4	2.35	0.89	8.36	0.008
	Bottom rod	12	1	3	11.28	0.89	30.08	0.030
	Extra Bottom rod.	12	1	6	2.30	0.89	12.27	0.012
	Stirrups	8	1	55	1.30	0.395	28.33	0.028
l.	**IB13A (230 X450)**							
	Top rod.	12	1	2	11.50	0.89	20.44	0.020
	Extra Top rod.	12	1	4	2.40	0.89	8.53	0.009
	Bottom rod	12	1	3	11.50	0.89	30.67	0.031
	Extra Bottom rod.	12	1	6	2.30	0.89	12.27	0.012
	Stirrups	8	1	55	1.30	0.395	28.33	0.028
m	**IB 14 (230 X450)**							
	Top rod.	20	1	2	18.36	2.47	90.67	0.091
	Bottom rod	20	1	2	8.35	2.47	41.23	0.041
		16	2	2	6.44	1.58	40.71	0.041
	Extra Top rod.	20	2	2	4.00	2.47	39.51	0.040
	Extra Bottom rod.	20	1	2	5.70	2.47	28.15	0.028
	Stirrups	8	1	112	1.30	0.395	57.70	0.058
n.	**IB 15 (230 X450)**							
	Top rod.	20	1	2	8.37	2.47	41.33	0.041
	Bottom rod	25	1	2	8.37	3.86	64.58	0.065
	Extra Bottom rod.	20	1	2	5.50	2.47	27.16	0.027
	Top rod @ ends	12	1	2	2.65	0.89	4.71	0.005
	Stirrups	8	1	53	1.30	0.395	27.30	0.027
o.	**IB 16 (230 X600)**							
	Top rod.	16	6	2	6.78	1.58	128.57	0.129
	Bottom rod	16	6	2	6.78	1.58	128.57	0.129
	Extra Bottom rod.	20	6	2	4.20	2.47	124.44	0.124
	Stirrups	8	6	41	1.60	0.40	155.89	0.156
p.	**IB 17 (230 X600)**							
	Top rod.	12	8	2	3.89	0.89	55.32	0.055
	Bottom rod	16	8	2	3.89	1.58	98.35	0.098

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	Extra Bottom rod.	12	8	2	3.45	0.89	49.07	0.049
	Stirrups	8	8	22	1.60	0.395	111.53	0.112
q	**IB 18 (150X450)**							
	Top rod.	12	8	2	3.89	0.89	55.32	0.055
	Bottom rod	16	8	2	3.89	1.58	98.35	0.098
	Extra Bottom rod.	12	8	2	3.45	0.89	49.07	0.049
	Stirrups	8	8	22	1.14	0.395	79.54	0.080
r	**IB 18 A & 15 B (150X450)**							
	Top rod.	12	5	2	2.07	0.89	18.40	0.018
	Bottom rod	12	5	2	2.07	0.89	18.40	0.018
	Stirrups	8	5	11	1.14	0.395	24.86	0.025
s	**IB 19 (230X600)**							
	Top rod.	16	12	2	6.78	1.58	257.14	0.257
	Bottom rod	16	12	2	6.78	1.58	257.14	0.257
	Extra Bottom rod.	20	12	2	4.20	2.47	248.89	0.249
	Stirrups	8	12	41	1.60	0.395	311.77	0.312
t	**IB 20 (230X600)**							
	Top rod.	16	1	2	8.81	1.58	27.84	0.028
	Bottom rod	16	1	2	8.81	1.58	27.84	0.028
	Extra Top rod ends	20	1	2	2.20	2.47	10.86	0.011
	Extra Bottom rod.	20	1	2	4.20	2.47	20.74	0.021
	Stirrups	8	1	55	1.60	0.395	34.85	0.035
u	**IB 21 (230X600)**							
	Top rod.	16	2	2	27.32	1.58	172.69	0.173
	Bottom rod	20	2	2	25.70	2.47	253.83	0.254
	Extra Top rod ends	20	2	4	2.60	2.47	51.36	0.051
	top @ colmns	25	2	2	3.05	3.86	47.07	0.047
		12	2	4	3.05	0.89	21.69	0.022
		20	2	2	3.05	2.47	30.12	0.030
	Extra Bottom rod.	20	2	6	4.40	2.47	130.37	0.130
		12	2	2	2.50	0.89	8.89	0.009
	Stirrups	8	2	187	1.60	0.395	237.00	0.237
w	**IB 22 (230x450)**							
	Top rod.	16	12	2	1.46	1.58	55.37	0.055
	Bottom rod	16	12	2	1.46	1.58	55.37	0.055
	Stirrups	8	12	8	1.30	0.395	49.46	0.049
x	**IB 23 (230x450)**							
	Top rod.	12	2	2	3.66	0.89	13.01	0.013
	Bottom rod	16	2	2	3.66	1.58	23.13	0.023
	top @ colmns	12	2	2	2.65	0.89	9.42	0.009
	Stirrups	8	2	20	1.30	0.395	20.61	0.021
y	**IB 24 (230x600)**							
	Top rod.	20	1	2	13.00	2.47	64.20	0.064
	Bottom rod	20	1	2	13.00	2.47	64.20	0.064

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	Extra Bottom rod.	20	1	4	4.30	2.47	42.47	0.042
	top @ colmns	20	1	4	3.70	2.47	36.54	0.037
	Extra Top rod ends	16	1	4	2.30	1.58	14.54	0.015
	Stirrups	8	1	97	1.60	0.395	61.47	0.061
z	**IB 25 (230x600)**							
	Top rod.	16	1	2	13.90	1.58	43.93	0.044
	Bottom rod	20	1	2	13.90	2.47	68.64	0.069
	Extra Bottom rod.	20	1	2	3.00	2.47	14.81	0.015
	top @ colmns	20	1	4	3.00	2.47	29.63	0.030
	Stirrups	8	1	102	1.60	0.395	64.64	0.065
z1	**IB 26 (230x600)**							
	Top rod.	16	2	2	2.88	1.58	18.20	0.018
	Bottom rod	16	2	2	2.88	1.58	18.20	0.018
	Stirrups	8	2	18	1.60	0.395	22.81	0.023
z2	**IB 27 (230x600)**							
	Top rod.	12	2	2	13.90	0.89	49.42	0.049
	Bottom rod	20	2	2	13.90	2.47	137.28	0.137
	Extra Bottom rod.	16	2	2	4.00	1.58	25.28	0.025
	Stirrups	8	2	102	1.60	0.395	129.27	0.129
z3	**IB 28 (230x600)**							
	Top rod.	16	1	2	15.35	1.58	48.51	0.049
	Bottom rod	16	1	2	15.35	1.58	48.51	0.049
	Extra Bottom rod.	16	1	4	4.20	1.58	26.55	0.027
	top @ colmns	20	1	2	3.80	2.47	18.77	0.019
		12	1	2	2.70	0.89	4.80	0.005
	Stirrups	8	1	114	1.60	0.395	72.24	0.072
z4	**IB 29 (230x600)**							
	Top rod.	20	1	2	15.35	2.47	75.80	0.076
	Bottom rod	20	1	2	15.35	2.47	75.80	0.076
	Extra Bottom rod.	16	1	2	4.20	1.58	13.27	0.013
		25	1	2	4.30	3.86	33.18	0.033
	top @ colmns	25	1	2	3.80	3.86	29.32	0.029
		16	1	2	2.30	1.58	7.27	0.007
	Stirrups	8	1	114	1.60	0.395	72.24	0.072
z5	**IB 30 (230x600)**							
	Top rod.	20	1	2	13.01	2.47	64.25	0.064
	Bottom rod	20	1	2	13.01	2.47	64.25	0.064
	Extra Bottom rod.	20	1	2	4.30	2.47	21.23	0.021
		25	1	2	4.40	3.86	33.95	0.034
	top @ colmns	25	1	2	3.70	3.86	28.55	0.029
		16	1	2	2.30	1.58	7.27	0.007
	Stirrups	8	1	97	1.60	0.395	61.47	0.061
z6	**IB 30 A (230x450)**							
	Top rod.	12	1	2	4.46	0.89	7.93	0.008
	Bottom rod	12	1	2	4.46	0.89	7.93	0.008
	Stirrups	8	1	25	1.60	0.395	15.84	0.016

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	IB 31 (230x600)							
	Top rod.	20	1	2	10.61	2.47	52.40	0.052
	Bottom rod	20	1	2	10.61	2.47	52.40	0.052
	Extra Bottom rod.	20	1	2	4.30	2.47	21.23	0.021
	top @ colmns	25	1	2	3.20	3.86	24.69	0.025
	Extra Top rod ends	20	1	4	1.80	2.47	17.78	0.018
		20	1	4	2.20	2.47	21.73	0.022
	Stirrups	8	1	78	1.60	0.395	49.43	0.049
	First floor							
	IFF3(230 X450)							
	Top rod.	16	2	2	6.37	1.58	40.26	0.040
	Extra Top rod.	12	2	2	2.85	0.89	10.13	0.010
	Top rod at end	12	2	2	2.00	0.89	7.11	0.007
	Bottom rod	16	2	3	6.37	1.58	60.40	0.060
	Extra Bottom rod.	16	2	2	3.00	1.58	18.96	0.019
	Stirrups	8	2	48	1.30	0.40	49.46	0.049
	Top rod.	16	2	2	4.40	1.58	27.81	0.028
	Extra Top rod.	12	2	2	2.85	0.89	10.13	0.010
	Top rod at end	12	2	2	2.00	0.89	7.11	0.007
	Bottom rod	16	2	3	2.85	1.58	27.02	0.027
	Extra Bottom rod.	16	2	2	3.00	1.58	18.96	0.019
	Stirrups	8	2	48	1.30	0.40	49.46	0.049
							9684.37	**9.684**

A.E.E (P)
R.R. Naga

Contractor Representative

Assistant Engineer
Project-RR Nagara
BBMP

Consultant Representative

Asst.Executive Engineer
Project-RR Nagara
BBMP

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Name of Agency :- M/s.K R Govindaraju

Name of Work:- Construction of Old age homes and other buildings in JP PARK ward No: 17

Bill No 2nd Part Bill

Item No:	28		

BARBENDING SCHEDULE FOR BASEMENT ROOF SLAB

Slab no	Dia. of Bar mm	Descriptions	Nos	Length of Bar	Spacing	clear span in opp side	No. Bars	Total Length	Wt. in Kg/m	Total Wt. in kg	Total Weight in MT
		Measurement recorded on									
Item Name:	Providing TMT Steel reinforcement for RCC works including straightening, cutting, bending, hooking, placing in position lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary, complete as per design (laps, hooks and wastage shall not be measured and paid) cost of all materials, labour, HOM of machineries etc., complete as per specifications. complete as per the direction of the Engineer in-charge. For columns ,beams , sump tank , roof slab, misc. works.										
		ROOF SLAB									
Slab no 1											
A4A6'A'4A'6	10	Main bar-shorter	1	1.850	0.150	3.50	12	22.200	0.617	13.704	0.014
	10		1	3.350	0.150	3.50	12	40.200	0.617	24.815	0.025
	10	Main bar-longer	1	3.960	0.150	1.39	5	19.800	0.617	12.222	0.012
	10		1	5.270	0.150	1.39	5	26.350	0.617	16.265	0.016
	10		1	3.960	0.200	0.45	6	23.760	0.617	14.667	0.015
	10	Dist. bar-cranked-shorter	1	1.850	0.200	0.90	12	22.200	0.617	13.704	0.014
Slab no 2											
	10	Main bar-Straight-shorter	1	3.960	0.150	4.39	15	59.400	0.617	36.667	0.037
	10	do long	1	5.260	0.150	4.39	15	78.900	0.617	48.704	0.049
'4A'6/C4C6	10	Main bar-Cranked-longer	1	5.300	0.150	3.50	12	63.600	0.617	39.259	0.039
	10	do long	1	6.650	0.150	3.50	12	79.800	0.617	49.259	0.049
	10	Dist. bar-cranked-longer	1	4.850	0.200	0.90	6	29.100	0.617	17.963	0.018
	10		1	3.96	0.20	0.525	8	31.680	0.617	19.556	0.020
	10	Dist. bar-cranked-shorter	1	4.85	0.20	1.1	7	33.950	0.617	20.957	0.021

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Slab no 3											
(S3 & S6)											
A6A8/C6C8	10	Main bar-Cranked-longer	5	7.110	0.150	6.00	21	728.775	0.617	449.861	0.450
A8A11/C8C11	10		5	5.860	0.150	6.00	21	600.650	0.617	370.772	0.371
C8C11/D8D11	10	Main bar-Straight-longer	5	8.460	0.150	4.15	15	613.350	0.617	378.611	0.379
C11C13/D11D13	10		5	7.210	0.200	4.15	11	396.550	0.617	244.784	0.245
C6C8/D6D8	10	Dist. bar-cranked-longer	5	6.460	0.200	1.05	12	387.600	0.617	239.259	0.239
	10		5	4.610	0.200	0.85	5	115.250	0.617	71.142	0.071
	10	Dist. bar-Straight-shorter	5	4.610	0.200	1.50	9	207.450	0.617	128.056	0.128
Slab no 4											
C14C15/D14D15	10	Main bar-Cranked-shorter	6	5.340	0.150	6.00	21	656.820	0.617	405.444	0.405
(S13)	10		6	5.340	0.150	6.00	21	656.820	0.617	405.444	0.405
	10	Main bar-Straight-shorter	6	7.560	0.150	4.14	15	657.720	0.617	406.000	0.406
	10		6	6.460	0.150	4.14	15	562.020	0.617	346.926	0.347
	10	Dist. bar-cranked-longer	6	6.460	0.200	0.90	12	465.120	0.617	287.111	0.287
	10		6	4.140	0.200	1.50	9	223.560	0.617	138.000	0.138
	10	Dist. bar-Straight-shorter	6	4.140	0.200	0.90	6	149.040	0.617	92.000	0.092
Slab no 5											
A11A13/B11B13	10	Main bar-Cranked-shorter	1	5.910	0.150	2.17	8	44.325	0.617	27.361	0.027
	10		1	4.610	0.150	2.17	8	34.575	0.617	21.343	0.021
	10	Main bar-Straight-shorter	1	2.630	0.150	4.15	15	38.135	0.617	23.540	0.024
	10		1	4.130	0.150	4.15	15	59.885	0.617	36.966	0.037
	10	Dist. bar-cranked-longer	1	4.610	0.200	0.60	8	36.880	0.617	22.765	0.023
	10	Dist. bar-Straight-shorter	1	2.630	0.200	1.05	6	15.780	0.617	9.741	0.010
	10	Dist. bar-Straight-shorter	1	2.630	0.200	0.60	4	10.520	0.617	6.494	0.006
Slab no 6											
B11B13/C11C13	10	Main bar-Cranked-shorter	1	5.910	0.150	3.60	13	73.875	0.617	45.602	0.046

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	10		1	4.610	0.150	3.60	13	57.625	0.617	35.571	0.036
	10	Main bar-Straight-shorter	1	4.810	0.150	4.15	15	69.745	0.617	43.052	0.043
	10		1	6.610	0.150	4.15	15	95.845	0.617	59.164	0.059
	10	Dist. bar-cranked-longer	1	4.000	0.200	1.05	6	24.000	0.617	14.815	0.015
	10		1	4.000	0.200	0.60	4	16.000	0.617	9.877	0.010
	10	Dist. bar-Straight-Longer	1	4.610	0.200	0.90	12	55.320	0.617	34.148	0.034
Slab no 7											
at staircase	10	Main bar-Cranked-shorter	1	1.890	0.150	3.60	13	23.625	0.617	14.583	0.015
	10		1	2.500	0.150	1.43	6	13.750	0.617	8.488	0.008
	10	Main bar-Straight-shorter	1	3.600	0.150	1.44	6	19.800	0.617	12.222	0.012
	10		1	4.500	0.150	1.44	6	24.750	0.617	15.278	0.015
	10	Dist. bar-cranked-longer	1	3.920	0.150	1.20	18	70.560	0.617	43.556	0.044
	10	rod from 2nd landing	1	3.200	0.125	1.20	11	35.200	0.617	21.728	0.022
	10	rod from 2nd landing	1	2.630	0.125	1.20	11	28.930	0.617	17.858	0.018
Slab no: 8											
C1C2/D1D2	10	Main bar-Cranked-shorter	12	3.800	0.150	6.00	21	934.800	0.617	577.037	0.577
(S2)	10	alt	12	5.000	0.150	6.00	21	1230.000	0.617	759.259	0.759
	10	Main bar-Straight-shorter	12	6.460	0.150	3.47	12	930.240	0.617	574.222	0.574
	10	alt	12	7.560	0.150	3.47	12	1088.640	0.617	672.000	0.672
	10	Dist. bar-cranked-longer	12	6.460	0.200	0.85	10	775.200	0.617	478.519	0.479
	10	Dist. bar-Straight-Longer	12	3.810	0.200	1.50	9	411.480	0.617	254.000	0.254
	10	Dist. bar-Straight-Longer	12	3.810	0.200	0.90	6	274.320	0.617	169.333	0.169
Slab no: 9											
C5C6/D5D6	10	Main bar-Cranked-shorter	1	3.660	0.150	6.00	21	75.030	0.617	46.315	0.046
	10		1	3.810	0.150	6.00	21	78.105	0.617	48.213	0.048
	10	Main bar-Straight-shorter	1	6.460	0.150	2.10	15	96.900	0.617	59.815	0.060

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	10	Dist. bar-cranked-longer	1	6.460	0.200	0.55	4	25.840	0.617	15.951	0.016
	10	Dist. bar-Straight-Longer	1	2.560	0.200	0.90	12	30.720	0.617	18.963	0.019
Slab no: 10 J3J7/K5K7	10	Main bar-Cranked-shorter	2	6.060	0.150	3.11	11	133.320	0.617	82.296	0.082
	10	straight	2	6.450	0.150	3.11	11	141.900	0.617	87.593	0.088
	10	Main bar-Straight-shorter	2	4.270	0.150	4.77	33	281.820	0.617	173.963	0.174
	10	Dist. bar-cranked-longer	2	3.570	0.200	1.60	18	128.520	0.617	79.333	0.079
	10	Dist. bar-Straight-Longer	2	5.220	0.200	0.80	10	104.400	0.617	64.444	0.064
D'1D'2/F'1F'2	10	Main bar-Cranked-shorter	4	4.800	0.150	3.11	22	422.400	0.617	260.741	0.261
	10	Main bar-Straight-shorter	4	3.580	0.150	4.03	28	400.960	0.617	247.506	0.248
	10	Dist. bar-cranked-longer	4	3.580	0.200	0.90	12	171.840	0.617	106.074	0.106
	10	Dist. bar-Straight-Longer	4	6.350	0.200	0.70	10	254.000	0.617	156.790	0.157
CNB	10	Main bar-Cranked-shorter	4	4.490	0.200	3.120	17	305.320	0.617	188.469	0.188
(S8)	10	Main bar-Straight-shorter	4	7.580	0.200	4.03	21	636.720	0.617	393.037	0.393
	10	Dist. bar-cranked-longer	4	3.580	0.200	0.90	12	171.840	0.617	106.074	0.106
	10	Dist. bar-Straight-Longer	4	6.350	0.200	0.70	10	254.000	0.617	156.790	0.157
Slab no: 14	10	Main bar-Cranked-both sides	4	3.570	0.150	2.88	20	285.600	0.617	176.296	0.176
D'3D5/F'3F5	10	Main bar-Straight-shorter	4	3.340	0.150	3.11	11	146.960	0.617	90.716	0.091
(S9)		long	4	5.580	0.150	4.98	17	379.440	0.617	234.114	0.234
	10	Dist. bar-cranked-longer	4	3.570	0.200	0.65	8	114.240	0.617	70.519	0.071
	10	Dist. bar-Straight-Longer	4	3.110	0.200	0.80	10	124.400	0.617	76.790	0.077

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Slab no: 15	10	Main bar-Straight-longer	4	6.940	0.150	2.11	15	416.400	0.617	257.037	0.257
CORRIDER	10	Main bar-Straight-shorter	4	2.560	0.150	6.48	22	225.280	0.617	139.062	0.139
	10	do longer	4	3.660	0.150	6.48	22	322.080	0.617	198.815	0.199
	10	Dist. bar-Straight-Longer	4	6.480	0.200	0.30	6	155.520	0.617	96.000	0.096
		do	4	6.480	0.200	0.525	8	207.360	0.617	128.000	0.128
Slab no: 16	10	Main bar-Cranked-shorter	2	4.610	0.150	2.11	15	138.300	0.617	85.370	0.085
	10	Main bar-Straight-shorter	2	2.560	0.150	4.23	15	74.240	0.617	45.827	0.046
	10	longer	2	3.660	0.150	4.23	15	106.140	0.617	65.519	0.066
	10	Dist. bar-cranked-longer	2	5.356	0.175	3.46	42	449.904	0.617	277.719	0.278
	10		2	6.480	0.200	0.30	3	38.880	0.617	24.000	0.024
	10	Dist. bar-Straight-Longer	2	6.480	0.200	0.525	4	51.840	0.617	32.000	0.032
Slab no: 17	10	Main bar-crk-shorter	4	2.570	0.150	3.90	14	138.780	0.617	85.667	0.086
	10	longer	4	3.670	0.150	3.90	14	198.180	0.617	122.333	0.122
	10	Dist bar	4	4.360	0.150	2.10	15	261.600	0.617	161.481	0.161
	10	Dist. bar-cranked-longer	4	4.360	0.200	0.525	4	69.760	0.617	43.062	0.043
	10	Dist. bar-Straight-Longer	4	4.360	0.200	0.30	3	52.320	0.617	32.296	0.032
Slab no: 18 &19	10	Main bar-crk-	1	9.880	0.150	3.11	22	217.360	0.617	134.173	0.134
J7J9/K7K9	10	shorter - crk	1	4.320	0.150	7.13	25	105.840	0.617	65.333	0.065
J9J10/K9K10	10	longer - crk	1	5.000	0.150	7.13	25	122.500	0.617	75.617	0.076
	10	Dist bar	1	3.570	0.150	0.85	14	49.980	0.617	30.852	0.031
	10	Dist. bar-cranked-longer	1	8.050	0.200	1.100	14	112.700	0.617	69.568	0.070
Slab no: 20 & 21	10	Main bar-crk-	2	6.070	0.150	3.11	11	133.540	0.617	82.432	0.082
K5K6/L'5L'6	10		2	6.420	0.150	3.11	11	141.240	0.617	87.185	0.087
K6K7/M'6M'7	10	shorter - crk	2	2.410	0.150	4.53	16	74.710	0.617	46.117	0.046
(S15)	10	longer - crk	2	3.530	0.150	4.53	16	109.430	0.617	67.549	0.068
	10	Dist bar	2	2.410	0.200	0.85	10	48.200	0.617	29.753	0.030

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	10	Dist. bar-cranked-longer	2	5.220	0.200	0.530	8	83.520	0.617	51.556	0.052
Slab no: 22	10	Main bar-crk-	2	2.980	0.150	4.27	15	86.420	0.617	53.346	0.053
K7K9/M7M9	10	shorter - crk	2	3.730	0.150	4.27	15	108.170	0.617	66.772	0.067
(S16)	10	longer - crk	2	5.830	0.150	2.52	9	104.940	0.617	64.778	0.065
	10	shorter - crk	2	6.430	0.150	2.52	9	115.740	0.617	71.444	0.071
	10	Dist bar	2	4.730	0.200	1.05	12	113.520	0.617	70.074	0.070
	10	Dist. bar-cranked-longer	2	2.980	0.200	0.850	10	59.600	0.617	36.790	0.037
Slab no: 23	10	Main bar-crk-	1	2.980	0.150	4.27	15	43.210	0.617	26.673	0.027
K9K10/M9M10	10	shorter - crk	1	3.410	0.150	4.27	15	49.445	0.617	30.522	0.031
	10	longer - crk	1	5.830	0.150	2.10	8	43.725	0.617	26.991	0.027
	10	shorter - crk	1	6.430	0.150	2.10	8	48.225	0.617	29.769	0.030
	10	Dist bar	1	4.730	0.200	1.45	16	75.680	0.617	46.716	0.047
	10	Dist. bar-cranked-longer	1	2.560	0.200	0.850	10	25.600	0.617	15.802	0.016
Slab no: 24	10	Main bar-crk-	2	7.930	0.150	2.51	9	142.740	0.617	88.111	0.088
M7M9/N7N9	10	shorter - crk	2	6.460	0.150	2.51	9	116.280	0.617	71.778	0.072
	10	longer - crk	2	4.430	0.150	5.27	18	159.480	0.617	98.444	0.098
	10	shorter - crk	2	3.730	0.150	5.27	18	134.280	0.617	82.889	0.083
	10	Dist bar -longer side	2	5.270	0.200	0.65	16	168.640	0.617	104.099	0.104
	10	Dist. bar-cranked-shorter	2	2.970	0.200	1.300	8	47.520	0.617	29.333	0.029
	10	Dist. bar-cranked-shorter	2	2.970	0.200	1.500	9	53.460	0.617	33.000	0.033
Slab no: 25	10	Main bar-crk-	1	7.930	0.150	2.10	8	59.475	0.617	36.713	0.037
M9M10/N9N10	10	do	1	6.460	0.150	2.10	8	48.450	0.617	29.907	0.030
	10	shorter- crk	1	3.410	0.150	5.27	36	122.760	0.617	75.778	0.076
	10	Dist bar -longer side	1	5.270	0.200	0.525	8	42.160	0.617	26.025	0.026
	10	Dist. bar-cranked-shorter	1	2.560	0.200	1.300	8	20.480	0.617	12.642	0.013

A.E.E.(P)
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	10	Dist. bar-cranked-shorter	1	2.560	0.200	1.500	9	23.040	0.617	14.222	0.014
A'	10	Extra at top	1	2.000	0.300	18.50	63	126.000	0.617	77.778	0.078
First Floor		**Staircase room**									
	10	Main bar-crk-	1	4.060	0.150	5.56	38	154.280	0.617	95.235	0.095
	10	shorter- crk	1	5.560	0.150	3.83	27	150.120	0.617	92.667	0.093
	10	Dist bar -longer side	1	6.000	0.200	3.830	40	240.000	0.617	148.148	0.148
	10	Dist. bar-cranked-shorter	1	4.000	0.200	5.560	58	232.000	0.617	143.210	0.143
									Total	**15574.45**	**15.5745**
										Kgs	**Tonne**

Contractor Representative

Consultant Representative

Assistant Engineer
Project-RR Nagara
BBMP

Asst.Executive Engineer
Project-RR Nagara
BBMP

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